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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,271	01/14/2002	Cheng-Qun Gui	P 290598 P-0224.010-US	4688

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EXAMINER

KIM, PETER B

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,271

Applicant(s)

GUI ET AL.

Examiner

Peter B. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 52002.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The alignment radiation and the projection beam having the same wavelength and swapping the first and the second side of the substrate are not sufficiently described in the written description.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6, 7, 11, 12, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriyama et al. (Moriyama) (4,798,470).

Moriyama discloses in Fig. 8, a device manufacturing method and lithographic projection apparatus comprising a radiation system (113), a support structure (109) to support beam patterning structure (106), a substrate table (111) to hold substrate (101) with a first side covered with photosensitive material (102) and a second side with alignment mark (103), a projection system (104) an alignment system to align a pattern of the patterning structure and an optical system (124, 125) to transmit an image of the alignment mark (103) from a side of the substrate opposite the target portion. Moriyama discloses the optical system arranged to transmit an image of the alignment mark at a plane of the first side of the substrate (col. 5, line 30-45).

Claims 1, 3, 9 and 11, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoichi (JP 1164032).

Yoichi discloses in the abstract and Fig. 1, a device manufacturing method and lithographic projection apparatus comprising a radiation system (2), a support structure to support beam patterning structure (1), a substrate table (6) to hold substrate (3) with a first side covered with photosensitive material and a projection system (5) an alignment system to align a pattern of the patterning structure and an optical system (8) to transmit an image of the alignment mark (B) from a side of the substrate opposite the target portion. Yoichi also discloses alignment marks (A and B) on the first side where the radiation is transmissible through the substrate (Fig. 1).

Claims 1, 3, 5-8, and 11-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Heinle (6,525,805).

Heinle discloses in Fig. 1, a device manufacturing method and lithographic projection apparatus comprising a radiation system (37), a support structure to support beam patterning

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structure (38), a substrate table (200) to hold substrate (60) with a first side (62) covered with photosensitive material and a second side (64) with alignment mark (66B), a projection system (40) an alignment system to align a pattern of the patterning structure and an optical system (14, 16) to transmit an image of the alignment mark (66B) from a side of the substrate opposite the target portion. Heinle discloses optical system comprising an optical fiber (16), and Heinle also discloses additional alignment mark (66F) is located on the first side of the substrate.

Claims 1, 3-5, 7, 9-12, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sogard et al. (Sogard) (6,376,329).

Sogard discloses in Fig. 1 and 5A, a device manufacturing method and lithographic projection apparatus comprising a radiation system (7), a support structure (5) to support beam patterning structure (4), a substrate table (10) to hold substrate (1) with a first side covered with photosensitive material and a second side with alignment mark (22, 22'), a projection system (8) an alignment system to align a pattern of the patterning structure and an optical system (15) to transmit an image of the alignment mark (22, 22') from a side of the substrate opposite the target portion. Sogard discloses optical system comprising an optical fiber (68), and infrared light source (64). Sogard also discloses in Fig. 1, the optical system with at least two mirrors and two lenses and the alignment radiation transmissible through the substrate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Kim whose telephone number is (703) 305-0105. The

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examiner can normally be reached on Monday-Thursday from 8:30 AM to 6:00 PM. The examiner can also be reached on alternate Fridays during the same hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703 308 2847. The fax phone numbers for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306- 3431.

A handwritten signature in black ink, appearing to read 'P. B. Kim', with a long horizontal line extending to the right.

Peter B. Kim
Patent Examiner
September 10, 2003